

**Remarks**

Applicant respectfully requests reconsideration. Claims 1-4 and 37-44 were previously pending in this application. Claims 3, 4, 39, 40, 43 and 44 were withdrawn. Claims 1, 2, 37, 38, 41 and 42 are being examined. Claims has been amended to clarify that the recited CaV2.2 subunit comprises exon e37a (CaV2.2e[37a]) but does not comprise exon e37b. This amendment is supported throughout the specification, and in particular at page 51, lines 26-28; page 10, lines 1-8; and Fig. 13. No new matter has been added.

**Rejection Under 35 U.S.C. § 103**

The Examiner rejected claims 1, 2, 37, 38, 41 and 42 under 35 U.S.C. § 103(a) as being unpatentable over Pan et al. (Society for Neuroscience abstract, November 2001). Applicant has amended claim 1 to clarify the composition of the expressed CaV2.2 subunit, and respectfully requests reconsideration.

The claimed invention recites an isolated cell that recombinantly expresses an N-type calcium channel comprising a Cav2.2 subunit that comprises exon e37a (Cav2.2e[37a]) but which does not include exon e37b. As noted in the response to the first Office Action, exons e37a and e37b are described in the instant application as being “expressed in a mutually exclusive manner” (see page 51, lines 26-28; page 10, lines 1-8; and Fig. 13).

The Pan abstract describes RT-PCR analysis of exons e37a and e37b of the Cav2.2 subunit that “indicates the presence of three RNA variants in brain that, lack both exons, contain both exons, and contain only 37b.” (see sixth sentence of abstract) Pan does not describe or suggest a Cav2.2 subunit that contains only exon 37a as is claimed. Moreover, Pan teaches that the “full length” Cav2.2 subunit contains the 37b exon. (see ninth sentence of abstract) Therefore, Pan does not teach or suggest to the person of skill in the art the claimed invention.

In fact, based on the teaching that the Cav2.2 subunit does not contain exon 37a alone, but only in combination with exon 37b, Pan teaches away from the claimed invention. Because Pan teaches away from the claimed invention, the person of skill in the art would not have a reason to modify Pan's teaching in order to obtain the claimed invention.

The Examiner has indicated that Pan's proposal of future analysis would have motivated the skilled person to test the claimed human splice variant. However, Pan's earlier description of RT-PCR analysis of the expression of the Cav2.2 subunit splice variants, as described above, means that the skilled person would have no motivation or reason to look for the claimed Cav2.2 subunit since Pan already provided evidence that there was no such splice variant. Rather than being motivated to try, Pan actually provides a motivation or reason not to try. In addition, the description in the Pan abstract clearly would provide the skilled person with no expectation of success of obtaining the claimed invention.

Accordingly, based on the claim amendment and arguments above, Applicant respectfully requests reconsideration and withdrawal of the rejection of claims 1, 2, 37, 38, 41 and 42 under 35 U.S.C. § 103(a).

**Species Election**

Applicant respectfully requests that the non-elected species (mouse and rat sequences, claims 3, 4, 39, 40, 43 and 44) be rejoined for examination.

**CONCLUSION**

A Notice of Allowance is respectfully requested. The Examiner is requested to call the undersigned at the telephone number listed below if this communication does not place the case in condition for allowance.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicant hereby requests any necessary extension of time. If there is a fee occasioned by this response, including an extension fee, that is not covered by an enclosed check, please charge any deficiency to Deposit Account No. 23/2825.

Respectfully submitted,  
*Lipscombe, et al., Applicant*

/John R. Van Amsterdam/  
John R. Van Amsterdam  
Reg. No.: 40,212  
Wolf, Greenfield & Sacks, P.C.  
600 Atlantic Avenue  
Boston, Massachusetts 02210-2211  
Telephone: (617) 646-8000

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